

WHAT IS CLAIMED:

1. An electrical contact assembly comprising:

an electrically insulative outer plunger, said outer plunger having an end wall and a side wall extending upwardly from said end wall, said end wall having an aperture therein, said end wall and side wall cooperating to define an interior cavity;

an electrically conductive inner plunger received in said interior cavity of said outer plunger adjacent said aperture; and

a power source having a first contact end and a second contact end, wherein said first contact end is smaller than said aperture in said outer plunger and said second contact end is larger than said aperture in said outer plunger,

whereby said first contact end of said power source is capable of extending through said aperture to make electrical contact with said inner plunger and said second end of said power source cannot extend through said aperture and is prevented from making electrical contact with said inner plunger.
2. The electrical contact assembly of claim 1, wherein said power source has a direct current output voltage, said first terminal having a positive polarity and said second terminal having a negative polarity.
3. The electrical contact assembly of claim 2, wherein said power source is a single cell battery of a type selected from the group consisting of: AAA, AA, C and D.

4. The electrical contact assembly of claim 2, further comprising:
a circuit board having an electrical contact in electrical communication with said inner plunger, said circuit board having circuitry thereon, said circuitry being subject to damage from application of direct current in reverse polarity.
5. The electrical contact assembly of claim 4, wherein said circuitry is a voltage step-up circuit.
6. The electrical contact assembly of claim 5, further comprising:
a light emitting diode mounted on said circuit board in electrical communication with said circuitry, said light emitting diode having an activation threshold that is greater than the voltage output of the power source.
7. An electrical assembly including integrated polarity protection comprising:
a direct current power source having a positive contact end and a negative contact end, wherein said positive contact end is smaller than said negative contact end;
a plunger assembly adjacent said power source, said plunger including:
an electrically insulative outer plunger, said outer plunger having an end wall and a side wall extending upwardly from said end wall, said end wall and side wall cooperating to define an interior cavity,

an aperture in said end wall, said aperture being smaller than the negative contact end of said power source and larger than the positive contact end of said power source, and

an electrically conductive inner plunger received in said interior cavity of said outer plunger adjacent said aperture; and

a circuit board having circuitry and at least one electrical contact thereon, said electrical contact in electrical communication with said inner plunger,

whereby said positive contact end of said power source is capable of extending through said aperture to make electrical contact with said inner plunger and said negative end of said power source cannot extend through said aperture and is prevented from making electrical contact with said inner plunger.

8. The electrical assembly of claim 7, wherein said power source is a single cell battery of a type selected from the group consisting of: AAA, AA, C and D.

9. The electrical assembly of claim 7, wherein said circuitry is a voltage step-up circuit, said circuitry being subject to damage from application of direct current in reverse polarity.

10. The electrical assembly of claim 9, further comprising:

a light emitting diode mounted on said circuit board in electrical communication with said circuitry, said light emitting diode having an activation threshold that is greater than the voltage output of the power source.

11. A flashlight assembly including integrated polarity protection comprising:
- a housing having a first end and a second end;
 - a battery received in said second end of said housing, said battery having a positive contact end and a negative contact end, wherein said positive contact end is smaller than said negative contact end;
 - a plunger assembly adjacent said battery, said plunger including:
 - an electrically insulative outer plunger, said outer plunger having an end wall and a side wall extending upwardly from said end wall, said end wall and side wall cooperating to define an interior cavity,
 - an aperture in said end wall, said aperture being smaller than the negative contact end of said battery and larger than the positive contact end of said battery, and
 - an electrically conductive inner plunger received in said interior cavity of said outer plunger adjacent said aperture, whereby said positive contact end of said power source is capable of extending through said aperture to make electrical contact with said inner plunger and said negative end of said power source cannot extend through said aperture and is prevented from making electrical contact with said inner plunger;
 - a circuit board received in said first end of said housing, said circuit board having a first electrical contact in electrical communication with said inner plunger, a second electrical contact in electrical communication with said negative contact of said battery and circuitry disposed thereon;

a lighting element mounted on said circuit board in electrical communication with said circuitry; and

means for selectively energizing said circuitry on said circuit board and said lighting element.

12. The flashlight assembly of claim 11, wherein said battery is a single cell battery of a type selected from the group consisting of: AAA, AA, C and D.

13. The flashlight assembly of claim 11, wherein said lighting element is a light emitting diode, said light emitting diode having an activation threshold that is greater than the voltage output of the power source.

14. The flashlight assembly of claim 13, wherein said circuitry is a voltage step-up circuit, said circuitry being subject to damage from application of direct current in reverse polarity.

15. The flashlight assembly of claim 11, wherein said circuitry is a voltage step-up circuit, said circuitry being subject to damage from application of direct current in reverse polarity.